Osteoarthritis

**CO30-001-e**

**Update on Physical and Rehabilitation Medicine management of osteoarthritis**

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**Keywords:** Osteoarthritis; Evidence-based; Physical and rehabilitation medicine interventions

Osteoarthritis (OA) is the most common joint disorder and the major cause of chronic musculoskeletal pain and mobility disability in elderly populations. The prediction is that it is going to be the fourth leading cause of disability by the year 2020. The goal of the Physical and Rehabilitation Medicine (PRM) management of osteoarthritis is to reduce the impact of OA on the individual by reducing pain and improving function, activities and participation.  

The optimal management requires the combination of both pharmacological and non-pharmacological interventions. The most recent guidelines and meta-analysis of randomized control trials indicate good level of evidence about the effectiveness of PRM interventions in OA: high level of evidence about education, weight reduction and exercise and growing evidence about the effectiveness of physical modalities. The demonstrated effectiveness of a large number of PRM interventions and evidence based recommendations for PRM interventions enhance the role of PRM specialists in providing management of OA.

Further reading  

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**Effects of low-intensity focused ultrasound on cartilage and synovium in experimental model of osteoarthritis of rabbits**

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**Keywords:** Osteoarthritis; Low-intensity focused ultrasound; Synovitis; Cartilage

**Objective.**—To analyze the effects of low-intensity focused ultrasound (LIFUS) on cartilage and synovium of knee joints with osteoarthritis (OA) in rabbits. Thirty-six male adult New Zealand white rabbits were divided into three groups (LIFUS, ACLT and Control).

**Methods.**—The LIFUS group and the ACLT group received ACLT surgery. Eight weeks after surgery, the LIFUS group was treated with low-intensity focused ultrasound (300 mW/cm², 50% duty cycle, 1.5 MHz, 30s per location, 6 locations per session, 5 sessions to 15 min daily, 4 weeks). The effects were evaluated by gross morphology, histology, ELISA kits and gene expression analysis.

**Results.**—The damage of cartilage and synovium in LIFUS group were less than that in animals in ACLT. The levels of IL-1β, TNF-α and PGE2 in synovial fluids of animals in LIFUS were lower than those in ACLT group animals. The mRNA expression of MMP-1, MMP-3, MMP-13 in cartilage and synovium decreased significantly in the LIFUS group and that of TIMP-1 increased significantly in the LIFUS compared with ACLT.

**Conclusion.**—The study suggests that LIFUS may protect against cartilage degradation and synovitis rabbits with OA, which regulate MMP-1, MMP-3, MMP-13, TIMP-1, IL-1β, TNF-α and PGE2 gene expression in the cartilage and synovium.

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**Evaluation of the improvement of life quality in patients with unicompartimental femoro-tibial gonarthritis appareled with a discharging orthesis**

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**Keywords:** Femoro-tibial gonarthritis; GII Ossür; Unicompartimental discharging orthesis; KOOS

**Aim.**—To evaluate the improvement of life quality on patients appareled with a discharging orthesis (Ossür GII).

**Material and methods.**—Thirty patients were included in this prospective study. Average age of the patients was 56.4 years and average BMI was 28 kg. Orthesis used has articulated three-point system with valgusing constraints made after virtual molding by optic scanner (fast scan) then with an acquisitioned data
treatment with a specific software (Rodin 4D). This one permits to adapt the constraint according to the importance of arthritis and importance of the deformation of lower limbs. For all patients, arthritis stage and lower limbs were analyzed and they were asked to fulfill before and after 5 weeks a specific and validated auto-questionnaire of life quality: KOOS (Knee Injury & Osteoarthritis Outcome Score).

**Results**– Every patient had a significant improvement of symptoms, pain and function items. 

**References**
